STATISTICAL PROCESS CONTROL FOR RUBBER FLOORING

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Abstract

There is no doubt that quality has become a major feature in the survival plan of many companies today. Each company employee must be committed to the use of effective methods to achieve optimum efficiency, productivity, and quality to produce competitive goods. Statistical Process Control (SPC), in its broad sense, is a collection of production methods and management concepts and practices that can be used throughout the company. SPC involves the use of statistical signals to identify sources of variation, to improve performance, and to maintain control production at higher quality levels.

This work investigates the implementation phase of SPC in a company, which produce rubber flooring. SPC techniques were used to identify the variations of finished tiles and quantify these variations. Stepwise approach was initiated to control the processes and uplift the quality of the finished tiles. Selected processes were monitored, analyzed and improved through multidisciplinary process actions teams. By using awareness and pilot project phases SPC was successfully implemented in calendering line.

Root causes for variations in the calandering line were studied through detailed cause and effect relations. Improvements were initiated by treating to the root causes. Using control charts out of control situations were identified and out of control action plan was prepared for to take prompt actions. Accuracy of the testing methods and calibration of measuring equipments were got more attention at each process step. Using planned control charts PATs managed to obtain well-described measurements, knowledge on process control and detection of process disturbances, product assurance, knowledge on the level of control of the process and control limits for process inherent variation.

Improvements in rubber flooring quality and consistency were achieved through the use of SPC. This step was not easily or quickly achieved. It required extensive

training at all levels, considerable planning, and most importantly, the consistent support from top management in committing the manpower and funding to make it happen.